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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/672,659	09/29/2003	Aaron P. Mowry		9777

7590 07/28/2004

Mr. Aaron P. Mowry
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EXAMINER

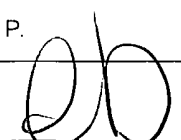
HERTZOG, ARDITH E

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/672,659	Applicant(s) MOWRY, AARON P.	
	Examiner Ardith E. Hertzog	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 1-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>29 Sept 2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Pre-Exam Informalities

1. Receipt is hereby acknowledged of applicant's substitute specification (with claims and abstract), filed January 26, 2004, in response to the Pre-Exam Formalities Notice (Formalities Letter) mailed December 22, 2003. Claims 1-4 are pending.

Information Disclosure Statement

2. Receipt is hereby acknowledged of the information disclosure statement, filed September 29, 2003. As the submission is in compliance with the provisions of 37 CFR § 1.97, the information disclosure statement has been considered, in accordance with the enclosed initialed copy of applicant's form PTO/SB/08a. (It is noted that applicant's notations in the most right-hand column of this form have been lined through, because they are not in the required format of page(s)/column(s)/line(s) and/or figure(s) citations.)

Patent Prosecution Procedure

3. It is respectfully noted that an examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

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4. Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office". This publication is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Abstract

5. Applicant is reminded of the proper **content** of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

6. Applicant is reminded of the proper **language and format** for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph **on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.** The form and legal

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phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. **It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.**

7. The abstract of the disclosure is objected to, because, per the emphasized citations above: 1) it refers to purported merits or speculative applications of the invention (i.e., the last sentence); 2) it compares the invention to the prior art, at least indirectly (i.e., the sentence bridging pp. 1-2 of the abstract); 3) it is two pages long; 4) it is over 200 words long; and 5) it contains the phrase, "This patent covers" (at line 8 of p. 1 of the abstract). Appropriate correction is required. See MPEP § 608.01(b).

8. **The following abstract, which would overcome the above objection, is suggested for applicant's consideration:**

Some or all of the starch from the relatively low density gypsum slurry which is used for the core of gypsum board in gypsum board manufacturing plants, along with some of the water in this slurry, is removed. This starch, either dry or liquid, and water is then added to the relatively high density gypsum slurry/slurries, which are used for the paper coatings and edges of the gypsum board. These steps put the starch and water near the paper-core interface to maintain the bonding of the paper to the gypsum board core.

Specification

9. The specification is objected to, because of the following minor informalities:
- a. The title should **only** appear on the first page of the specification (see 37 CFR § 1.72); therefore, the title should be **deleted** from page 3, page 5, and the first page of the claims.

- b. **Furthermore**, the title should appear as the **first** heading on the first page of the specification, with the **subsequent** heading "BACKGROUND OF THE INVENTION" (see 37 CFR § 1.77(b)); therefore, the title, "Reduced Manufacturing Cost of Gypsum Board" should appear **before** "BACKGROUND OF THE INVENTION" on page 1 of the specification.

Appropriate correction of both the above is required.

10. The specification is **further** objected to, as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR § 1.75(d)(1) and MPEP § 608.01(o). The examiner has been unable to locate **clear** antecedent basis in applicant's specification (i.e., pages 1-8) for the limitations recited in parts a. and b. of claim 3, **as well as** the limitations recited in parts a., b. and c. of claim 4. Appropriate correction is required.

Claim Objections

11. Claims 1-4 are objected to, because each claim is not in **single sentence format**. As stated in MPEP § 608.01(m): "Each claim begins with a capital letter and ends with a period. Periods may not be used elsewhere in the claims except for abbreviations. See *Fressola v. Manbeck*, 36 USPQ2d 1211 (D.D.C. 1995)."

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-4 are rejected as failing to define the invention in the manner required

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by 35 U.S.C. § 112, second paragraph. The claims are narrative in form and replete with indefinite and functional or operational language. **Specifically, each of** claims 1-4 is narrative in form, while, with respect to the indefinite and functional/operational language aspect of this rejection, the claims use the following indefinite verb tenses: “can” and “will” in claim 1; “will” in claim 3; and “will” in claim 4, **as well as** the indefinite adjectives “specific” and “general” in both claims 3 and 4 (i.e., absent any guidelines in the specification, what would or would not constitute a “specific gypsum”; a “specific stucco”; a “specific gypsum board”; and a “general arrangement”, as recited in these two claims?). **Furthermore**, outside of acronyms, the use of parentheses is considered indefinite in claims, since it is not clear if the limitations recited therein are required or not (i.e., “(relatively low density)”; “(relatively high density)”; and “(dry or liquid)”, as recited in claim 1; “(relatively low density)”, as recited in claim 3; and “(relatively high density)”, as recited in claim 4). **In addition**, as noted in paragraph 11. above, the claims must be in one sentence form only. Please note that the claims should **clearly** recite what **specific** method(s) and corresponding method step(s) thereof, and/or **specific** composition(s), including ingredients and amounts/relative proportions thereof, applicant regards as the invention—**not** purported merits or speculative applications of the invention, **nor** comparisons of the invention with respect to the prior art (i.e., as now recited in: parts c. and d. of claim 1; claim 2 in its entirety; claim 3 in its entirety; and claim 4 in its entirety). **Please note the format of the claims in the patents cited on applicant’s form PTO/SB/08a and the enclosed form PTO-892.** Appropriate correction is required.

Claim Rejections - 35 U.S.C. §§ 102 & 103

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1-4 are rejected under 35 U.S.C. § 102(b) as anticipated by **or, in the alternative**, under 35 U.S.C. § 103(a) as obvious over Sandford et al. (US 2,346,999).

Sandford et al. teach:

manufacture of composition wallboard consisting of a layer of water-setting cementitious material such as calcium sulphate plaster covered on one or both sides with relatively thin fibre liner, e. g. pulp board, thick paper, cardboard or the like, which is caused to adhere firmly to the cementitious material by allowing the latter to set in contact therewith, if necessary under pressure.

In plasterboard of this type the cementitious material is most generally plaster of Paris, hereinafter called stucco, but catalysed anhydrite plaster, and mixtures of stucco and catalysed anhydrite can also be used. (p. 1, col. 1, lines 1-14)

Sandford et al. discuss the use of core adhesives such as starches, stating that:

All these adhesives are many times as expensive as the plaster and the cheapest will cost twenty times as much as the plaster per unit weight. It would therefore be extremely desirable to eliminate them from the core mix and very many attempts have been made to do so but none of these so far as we are aware has been successful.

It is an object of this invention to make commercially sound plaster-board from ordinary plasters without the necessity of having to add adhesive to the core mix... (p. 2, col. 1, lines 24-75, especially lines 64-75)

Sandford et al. achieve this object of the invention, among others, wherein "a positive bond is provided between the core and the liner" (see p. 2, col. 2, lines 29-31), by

applying to the liners before they come into contact with the wet core mix a coating consisting of a water setting plaster or cement, in admixture with water and with a water-soluble or water-dispersible adhesive. It would appear that the water setting cement and water soluble adhesive in the coating bond to the paper and that the water setting cement of the core bonds to the water setting cement in the coating, since a coating of water setting cement alone or of water soluble adhesive alone does not give the same effect. In the production of plasterboard from plaster core mixes on fast continuous machines the water setting cement will generally be plaster of Paris, i. e. stucco. The proportion of water soluble or dispersible adhesive should not be less than 5% by weight of the stucco in the coating. The amount of water varies between 45% and 600% by weight of the stucco and is determined by the properties of the water setting cement of which the core is composed, the properties of the paper, and the method of applying the coating to the liners. (p. 2, col. 2, lines 31-54)

Sandford et al. continue by teaching specific parts-by-weight ranges, including preferred ranges, for the coating composition of the invention, which comprise stucco, adhesive and water (see p. 3, col. 1, lines 26-42). Sandford et al. then **exemplify** various "[p]lasterboards made from wallboard liner and core mixes" (see p. 4, col. 2, lines 35-36), **wherein the amount of starch (dextrine) used in the core is either zero or less than the amount used in the liner coating composition, and wherein the amount of water used in the core is less than that used in the liner coating composition** (see, for example, the four wallboards discussed at p. 4, col. 2, lines 55-74; see **also** the four wallboards discussed in the section bridging p. 4, col. 2 – p. 5, col. 1; **as well as** Examples 7, 9 and 10, and the discussion of modified Example 5 at p. 6, col. 2, lines

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15-20). **Accordingly**, Sandford et al. anticipate applicant's claims, since, as just discussed, methods of manufacturing gypsum board which, presumably,¹ meet all material limitations thereof appear to be **clearly** taught and even **exemplified** in this patent. **Alternatively**, if in some way Sandford et al. fail to meet each and every intended¹ material limitation of applicant's claims, then, **at the least**, methods of manufacturing gypsum board falling within the scope thereof would have been obvious to one of ordinary skill in the art, at the time of the instant invention, because, as just discussed, the broad teachings of Sandford et al. **clearly encompass** gypsum board manufacturing methods, which, presumably,¹ meet all instantly recited claim requirements—note that in the concluding section of this patent, Sandford et al. summarize, "this new method of producing plasterboard whereby the liners are coated with the resins instead of modification of the core with resins is more rapid, more foolproof, and cheaper" (see p. 7, col. 1, lines 11-14, noting the example which immediately follows).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These references are considered **cumulative to or less material than** that discussed above, particularly those cited on the enclosed form PTO-892. See the Brothers patent (US 2,940,505) and the Bieri patent (US 3,307,987) as a whole. See especially column 4, line 51 – column 5, line 3 of Keller et al. (US 3,956,456). The White et al. patent (US 4,279,673) is similar in disclosure to the White


¹ ("presumably" and "intended", in light of the 35 U.S.C. § 112, second paragraph, rejection of the claims, as set forth in paragraph 13. above)

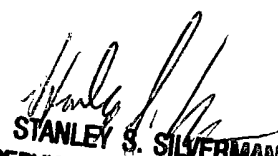
et al. patent cited by applicant; see also the White patent (US 4,327,146) as a whole. Note that the Long patents are related to one another, with that first issued stating, "The invention is based upon a completely new concept of paper-to-core bonding" (see col. 3, lines 35-36, of US 4,009,062). See especially claims 1 and 16 of Johnstone et al. (US 4,372,814).

18. Any inquiry concerning this communication should be directed to Ardith E. Hertzog at telephone number (571) 272-1347. The examiner can normally be reached on Monday through Friday (from about 8:30 a.m. - 4:30 p.m.).

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman, can be reached at (571) 272-1358. The fax phone number for the organization where this application is assigned is 703-872-9306.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. For any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AEH
July 26, 2004


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